

Application No. 10/650,062
Response to Office Action

Customer No. 01933

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: THE ALLOWABLE SUBJECT MATTER

The Examiner's indication of the allowability of the subject matter of claims 9, 12-14, 17 and 18 is respectfully acknowledged.

Claim 12 has been amended to be rewritten in independent form to include all of the limitations of its parent claim 6.

In addition, new claims 20 and 21 have been added to recite the subject matter of claims 8 and 16 depending from allowable amended independent claim 12.

No new matter has been added, and no new issues with respect to patentability have been raised.

Accordingly, it is respectfully submitted that amended independent claim 12 and claims 13, 14, 20 and 21 depending therefrom are all in condition for immediate allowance.

RE: THE REJECTED CLAIMS

Claim 6 has been amended to incorporate the subject matter of previously canceled claim 4, which was indicated to be allowable in the Office Action dated July 1, 2005.

Application No. 10/650,062
Response to Office Action

Customer No. 01933

In addition, claims 7 and 8 have been amended to be rewritten in independent form based on claim 6 as set forth in the Amendment filed on September 28, 2005.

No new matter has been added, and it is respectfully requested that the amendments to claims 6-8 be approved and entered.

It is respectfully submitted, moreover, that the amendments to claims 7 and 8 are not related to patentability, and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

CLAIM FEE

The application was originally filed with 19 claims of which 2 were independent. The application now contains 13 claims, of which 4 are independent. Accordingly, a claim fee in the amount of \$200 for the addition of 1 extra independent claim is attached hereto. In addition, authorization is hereby given to charge any additional fees which may be determined to be required to Account No. 06-1378.

RE: THE PRIOR ART REJECTION

Claims 6-8, 10, 11, 15, 16 and 19 were rejected under 35 USC 102 as being anticipated by USP 6,094,300 ("Kashima et

Application No. 10/650,062
Response to Office Action

Customer No. 01933

al"). This rejection, however, is respectfully traversed with respect to the claims set forth hereinabove.

According to the present invention as recited in each of independent claims 6-8, a laser scanning microscope is provided which comprises: a first optical scanning system which scans a first laser light for observing a sample on the sample; a first light branch device which separates a light from the sample from an optical path of the first laser light; at least one photodetector which detects the light from the sample separated by the first light branch device; a second optical scanning system which irradiates a specific portion on the sample with a second laser light for stimulating or operating the sample; and a wavelength selection device which is disposed between the first light branch device and the photodetector and which has a first function of transmitting a desired observation light and a second function of limiting transmission of the second laser light.

According to the present invention as recited in amended independent claim 6, the second optical scanning system is attachable and detachable with respect to a main body of the laser scanning microscope that includes the first optical scanning system.

According to the present invention as recited in amended independent claim 7, the wavelength selection device comprises an interference filter.

Application No. 10/650,062
Response to Office Action

Customer No. 01933

And according to the present invention as recited in amended independent claim 8, a transmittance of the second laser light by the wavelength selection device is not more than 0.01%.

It is respectfully submitted that Kashima et al does not disclose, teach or suggest the features of the present invention as recited in amended independent claims 6, 7 and 8.

In particular, it is respectfully pointed out that the subject matter of claim 4, which is now recited in claim 6, was previously indicated to be allowable (see the Office Action dated July 1, 2005), and it is respectfully submitted that Kashima et al does not disclose, teach or suggest that the second optical scanning system is attachable and detachable with respect to a main body of the laser scanning microscope, as recited in amended independent claim 6.

With respect to claims 7 and 8, as recognized by the Examiner, Kashima et al does disclose a photometric filter 112 which "permits only the fluorescence wavelength from the specimen 110 to pass through" (column 10, lines 58 and 59).

It is respectfully submitted, however, that Kashima et al does not disclose that the photometric filter 112 is an interference filter, as according to the present invention as recited in claim 7, or that the photometric filter 112 has a transmittance of the second laser light (for stimulating or

Application No. 10/650,062
Response to Office Action

Customer No. 01933

operating the sample) that is not more than 0.01%, as according to the present invention as recited in claim 8.

In this connection, it is noted that an interference filter is obtained by superimposing on a substrate a multilayered thin film formed from substances having different refractive indices, and that the interference filter functions by reflecting light having a wavelength to be cut off from a beam of light and by transmitting other light. Interference filters do not filter by absorbing light. Thus, unlike colored glass that absorbs a wavelength of light to be cut off, interference filters can prevent the light to be cut off from being transmitted through the filter to a high degree (transmittance of unwanted light can be reduced to a degree of only 10^{-5} to 10^{-10}). In addition, with an interference filter, a change in transparency can be very rapid, and the transmitted wavelength band can be very close to the cut off wavelength band.

With the structure of the present invention as recited in claim 7, the wavelength selection device comprises an interference filter. Therefore, with this structure of the present invention the wavelength selector can effectively transmit weak fluorescence while cutting off to a high degree the second laser beam, which has a much higher intensity than the fluorescence. And it is respectfully submitted that the photometric filter of Kashima does not correspond to a wavelength

Application No. 10/650,062
Response to Office Action

Customer No. 01933

selection device comprising an interference filter, as recited in claim 7.

According to claim 8, moreover, the transmittance of the second laser light by the wavelength selection device is not more than 0.01%. In this connection, it is respectfully submitted that while Kashima et al discloses a photometric filter 112, Kashima et al does not disclose, teach or suggest a wavelength selection device for which a transmittance of the second laser light is not more than 0.01%.

As explained at page 16, line 24 to page 18, conventionally a filter designed to allow fluorescence from a sample to pass therethrough is not assumed to include a function of cutting of the "second laser light." That is, such a filter was conventionally prepared to sufficiently reduce the intensity of light other than the fluorescence, rather than effectively cutting off the second laser light. This is because, as is well known, it is extremely difficult to manufacture a filter, regardless of the type of filter, that permits only a specific wavelength to pass through while cutting off a wide wavelength range of light (visible light, UV or IR, and so on). Therefore, filters are manufactured to transmit the desired wavelength, but cutting out an undesired wavelength is not achieved.

It is respectfully submitted, therefore, that the simple disclosure of a photometric filter 112 that allows fluorescence

Application No. 10/650,062
Response to Office Action

Customer No. 01933

to pass therethrough, as in Kashima et al, does not achieve or render obvious a filter that substantially cuts out the "second laser light" (to a transmittance of not more than 0.01%), as recited in claim 8.

With respect to claims 10 and 15, moreover, it is respectfully submitted that Kashima et al also does not disclose that the photometric filter 112 comprises an interference filter comprising a first interference coating, which performs a first function of transmitting a desired observation light, and a second interference coating, which performs a second function of limiting transmission of the second laser light. It is respectfully submitted, in fact, that the portions of Kashima et al cited by the Examiner with respect to claims 7, 8, 10 and 15 do not, in fact, contain any disclosure of the specific structure of photometric filter 112. Indeed, as explained hereinabove with respect to claim 7, Kashima et al does not disclose an interference filter.

In view of the foregoing, it is respectfully submitted that each of amended independent claims 6-8, as well as each of dependent claims 10, 11, 15, 16 and 19 respectively depending therefrom, all clearly patentably distinguish over Kashima et al, under 35 USC 102 as well as under 35 USC 103.

* * * * *

Application No. 10/650,062
Response to Office Action

Customer No. 01933

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



Douglas Holtz
Reg. No. 33,902

Frishauf, Holtz, Goodman & Chick, P.C.
220 Fifth Avenue - 16th Floor
New York, New York 10001-7708
Tel. No. (212) 319-4900
Fax No. (212) 319-5101

DH:iv
encs.